IN THE CLAIMS:

The listing of the claims will replace all prior versions, and
listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A ~~system for~~ data transmitting
~~data in~~ system for a serial bidirectional bus with a control
device comprising

a send and receiving unit for data fields combined into a
data frame, and

with bus subscribers connected in series which comprise an
evaluation circuit for reading in and reading out data fields in
data frames,

wherein each bus subscriber ~~(2, 3, 4)~~ comprises a test
circuit ~~(24)~~ to determine whether it is located at the bus end
opposite of the control device,

with at least the bus subscriber at the bus end comprising a
send device for a data frame,

wherein at least the bus subscriber ~~(4)~~ at the bus end
comprises a control stage ~~(13)~~ which is activated by a received
data frame ~~(6)~~ sent by the control device ~~(1)~~ over the serial
bidirectional bus and triggers the send device ~~(12)~~ depending on
the receipt of a data frame ~~(6)~~,

for sending a data frame ~~(11)~~ over the serial bidirectional

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bus in the direction of the control device ~~(1)~~ whereas the sent
data frame ~~(11)~~ contains at least data fields ~~(14, 15, 16)~~ for
all bus subscribers ~~(2, 3, 4)~~ and said data frame ~~(11)~~ is handed
over from one bus subscriber to the next bus subscriber.

Claim 2 (Currently Amended): A <u>data transmitting</u> system
according to claim 1,

wherein each of the bus subscribers comprises a control
stage ~~(13)~~ for a send device ~~(12)~~ for sending a data frame ~~(11)~~
for the own data fields and the data fields of the bus
subscribers which lie between the control device ~~(1)~~ and the
respective bus subscribers.

Claim 3 (Currently Amended): A <u>data transmitting</u> system
according to claim 1,

wherein the bus subscribers ~~(2, 3 and 4)~~ comprise a memory
~~(14)~~ for the position of the data fields ~~(7, 8, 9, 14, 15 and 16)~~
within the respective data frame ~~(6, 11)~~, which data fields can
be read in and out via the evaluation circuit ~~(10)~~.

Claim 4 (Currently Amended): A <u>data transmitting</u> system
according to claim 3,

wherein the control device ~~(1)~~ comprises an allocation stage
~~(17)~~ for the position of the data fields ~~(7, 8, 9, 14, 15 and 16)~~

within a data frame ~~(6 or 11)~~ which can be allocated to the individual bus subscribers ~~(2, 3 and 4)~~ and an initialization device ~~(18)~~ for reading out the positional data in data fields of a data frame addressed to the individual bus subscribers, and that the bus subscribers ~~(2, 3 and 4)~~ comprise an initialization circuit ~~(23)~~ for the address-related reading out of the positional data from the addressed data fields of the data frame into the memory ~~(14)~~ for these positional data.

Claim 5 (Currently Amended): A <u>data transmitting</u> system according to claim 1,

wherein each bus subscriber ~~(2, 3 and 4)~~ comprises a test circuit ~~(24)~~ for recognizing a bus subscriber ~~(3 and 4)~~ connected to the bus ~~(5)~~ and connected in outgoing circuit with the same.

Claim 6 (Currently Amended): A <u>data transmitting</u> system according to claim 1,

wherein, ~~as is known,~~ the control device ~~(1)~~ and the bus subscribers ~~(2, 3 and 4)~~ each comprise an encoding device ~~(25)~~ for producing check data ~~(16)~~ from the data frame ~~(6 and 11)~~, and that, as is known, the control device ~~(1)~~ and the bus subscribers ~~(2, 3 and 4)~~ each comprise a check device ~~(27)~~ for check data received with the data frames ~~(6 and 11)~~.

Claim 7 (Currently Amended): A <u>data transmitting</u> system according to claim 1,

wherein the control device ~~(1)~~ comprises an address memory ~~(30)~~ for the addresses ~~(31)~~ of the bus subscribers and that each bus subscriber ~~(2, 3 and 4)~~ comprises a recognition circuit ~~(32)~~ for triggering the evaluation circuit ~~(10)~~ for reading out the data field ~~(20, 21 or 22)~~ in the data frame ~~(19)~~ addressed to the bus subscriber ~~(2, 3 or 4)~~ on the one hand and for reading in its data field ~~(28, 29 or 30)~~ into the data frame ~~(27)~~ on the other hand.

Claim 8 (Currently Amended): A <u>data transmitting</u> system according to claim 1,

wherein multiple data fields are sent simultaneously in a single data frame and at a time.